

TECHNICAL SPECIFICATIONS

INPUTS (6)	CD, Tuner, Aux 1, Aux 2/Phono, Tape, SSP
OUTPUTS (4)	Tape, Power Amplifier, 1/4" Stereo Headphone Jack
CONTROLS (3)	Input Select, Balance, Volume
SWITCHES (5)	SSP, Tape/EPL (External Processor Loop), Mono/Stereo, Mute/Operate, Power On/Off
FREQUENCY RESPONSE	2 Hz to 130 kHz -0.5 dB; > 250 kHz -3.0 dB at 1VRMS output
THD & N (Output at 1V RMS)	< 0.1% from 20 Hz to 20 kHz
GAIN	Selectable, 24, 16 & 8dB @ 1kHz
INPUT IMPEDANCE	40k ohms
OUTPUT IMPEDANCE	<135 ohms @ 1kHz, all gain settings.
RATED OUTPUT	1 VRMS
MAXIMUM OUTPUT VOLTAGE	30 VRMS at 1% THD
NOISE	< 80µV unweighted wideband noise. Approx. 60µV IHF A-weighted noise -92 dB A-weighted below a 1 VRMS output
STEREO SEPARATION (Crosstalk)	> -60dB @ 1kHz relative to 1VRMS output
TUBE COMPLEMENT	4 - 6922 (6DJ8 types)
FUSE REQUIREMENTS (1)	.8 A slow-blo, 5mm x 20mm (100-120VAC countries), .4A slow-blo (220-240VAC countries)
POWER REQUIREMENTS	60VA Maximum, 100-120VAC 60Hz (Export 220-240VAC 50/60Hz)
DIMENSIONS	19" Wide x 11" Deep x 5.25" High (48 cm x 28 cm x 13 cm)

We at Sonic Frontiers hope you will derive many years of listening pleasure with your new Anthem Pre 2L. This Operating Manual contains important information regarding the operation and care of the Pre 2L. Be sure to read this manual carefully and follow these instructions in order to keep it performing and sounding its best. Please contact Sonic Frontiers if you have any questions, a Customer Service Representative will be pleased to assist you.



WHAT'S IN THE BOX?

In addition to the Pre 2L, its covers, and the operating manual you are presently reading (with associated inventory and warranty card), there are a few more items to take inventory of before steps are taken to make the Anthem Pre 2L operational.

- These items are:
- two matched pairs of 6922 tubes (or equivalent) totaling 4 \*
  - remote handset
  - a glove for handling the tubes
  - a detachable AC power cord
  - 18 screws
  - 1 Phillips #1 screwdriver

After completing an inventory of these items, proceed to the next steps.

*\*These tubes are carefully measured and matched in pairs. Take extra care to keep the pairs from being interchanged and mismatched which would degrade performance.*

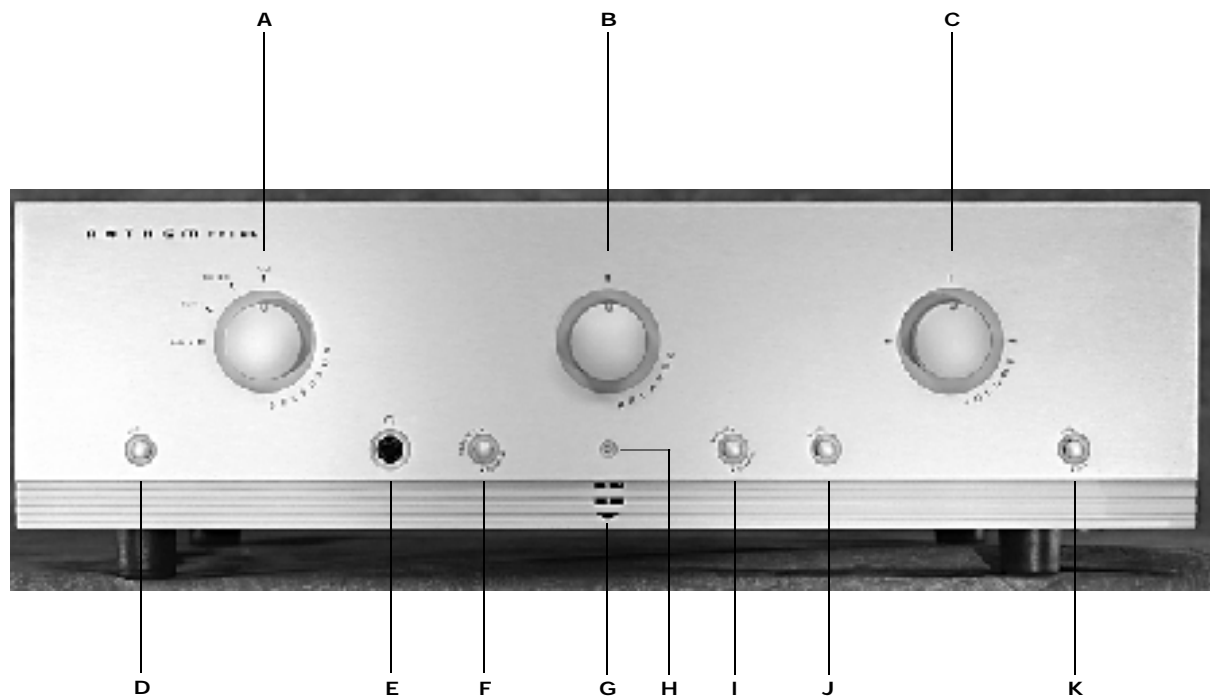


Figure 1 - Pre 2L Control Functions

#### LIMITED FIVE YEAR WARRANTY

Sonic Frontiers Int'l warrants to the purchaser that each Pre 2L is free of manufacturing defects for a period of five (5) years from the date of purchase. This five (5) year limited non-transferable warranty excludes all vacuum tubes, which we warrant for a period of twelve (12) months. To receive this warranty, the original purchaser must complete and mail to Sonic Frontiers, within thirty (30) days from the date of purchase, the enclosed Warranty Registration Card. Sonic Frontiers Int'l will then validate the warranty to the original purchaser. This warranty is subject to the following conditions and limitations:

1. Warranty applies only to the original purchaser.
2. This warranty is void and inapplicable if the product has been handled other than in accordance with the instructions in this Owner's Manual, abused or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being tampered with, modified or repaired by anyone other than Sonic Frontiers Int'l or an authorized Sonic Frontiers repair depot.
3. Warranty does not cover normal maintenance.
4. Sonic Frontiers Int'l shall not be responsible in any way for consequential or indirect damages or liabilities resulting from the use and operation of the product covered herein or resulting from any breach of this warranty or any implied warranty relating to said product.

During this period, Sonic Frontiers Int'l will repair or replace any defective components free of charge. A Return Authorization Number (RA Number) is required before any product is returned to our factory for any reason. This number must be visible on the exterior of the shipping container(s) for Sonic Frontiers to accept the return.

Units shipped to us without a Return Authorization Number or without a visible RA Number on the exterior of the shipping container(s) will be returned to the sender, freight collect.

Units to be repaired by Sonic Frontiers Int'l must be sent shipping and insurance prepaid by the original purchaser

in the original packing material. A returned product be accompanied by a written description of the defect. Repaired units will be returned by Sonic Frontiers Int'l and insurance prepaid.

All other warranties or conditions either written or implied are void.

*Note: In foreign markets (anywhere outside of Canada, USA), the warranty is supplied by the authorized International Distributor. Exact terms and conditions may vary.*



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltages" within the product's enclosure that may present a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**-IN TIME**

all audio electronic products, the ultimate sonic er of the Pre 2L will not be realized until and unless receives a minimum of approximately 70 hours il break-in time (i.e. the Pre 2L is on and producing ut signal).

**MENT FOR PROPER VENTILATION**

: least 4" (15 cm) of clear space above the Pre 2L for proper ventilation, making sure the air vent slots hassis cover remain unobstructed. Also, be sure Pre 2L is placed on a secure, hard and level sur-t on carpet).

**/ INSTRUCTIONS**

ation - Although your Pre 2L generates only nominal use, be sure that the ventilation slots in the top cover least 4" of unobstructed air space above them.

r and Moisture - This product should not be used iter. To prevent fire or shock hazard, do not expose duct to rain or moisture.

- This product should be situated away from heat : such as radiators, heat registers, stoves, or other :es which produce heat.

r Sources - This product should be connected to an er source of the proper rated voltage. The original j container will stipulate the AC voltage this unit can with correctly.

ing - A regular dusting with a soft, non-abrasive ll generally keep the finish of the faceplate and chas-ng like new. At no time should you allow any liquid to i contact with the Pre 2L; it may run into the electron-try and cause damage which will not be covered our warranty.

ing - Do not open this product. No user serviceable ide. Refer servicing to an authorized service technician.

Use Periods - The power cord of this product should ugged from the outlet when left unused for an rd period of time.

ot remove the Pre 2L covers while the unit is "on", or ted to an AC power source. Cover screws could fall the ventilation slots and cause electrical damage to 2L.

**PACKING MATERIALS**

Please retain all of the packing material and shipping boxes for your Pre 2L. They are custom designed to prevent ship-ping damage from occurring. Sonic Frontiers Int'l. will accept no responsibility for any damage occurring to a Pre 2L that is shipped in packing material other than the original Sonic Frontiers packing material.

**DISCLAIMER OF LIABILITY**

Under no circumstances does Sonic Frontiers Int'l assume liability or responsibility for injury or damages sustained in the use or operation of this equipment or for damages to any other equipment connected to it. Sonic Frontiers Int'l reserves the right to make design changes or improvements without the obligation to revise prior versions. All specifications are subject to change without notice.

**C O N T R O L F U N C T I O N S**

**A SELECTOR SWITCH**

This knob is rotated to select a Line Level Input (S). The Selector Switch is bypassed when the Tape/EPL (External Processor Loop) mode is selected by depressing the Tape/EPL-Source button (F), or when SSP mode is selected by depressing the SSP button (D).

**B BALANCE CONTROL**

This knob controls the relative balance of the left and right channels to compensate for any discrepancies caused by speaker placement, source imbalance, etc. Full rotation to the left or right of the center detent will fully attenuate the left or right channel.

**C VOLUME CONTROL**

This knob allows variable control over the Pre 2L's output level. Turn it clockwise and the music gets louder!

**D- SSP (SURROUND SOUND PROCESSOR) INPUT BUTTON**

This button selects an external Surround Sound Processor (SSP) input signal. When selected all preamp functions are completely disabled. The only way to deselect SSP mode is to press the SSP button a second time.

**E HEADPHONE INPUT JACK**

The Headphone Jack accepts 1/4" stereo headphone plugs. Upon insertion of the headphone plug, the main amplifier outputs are disabled. All other preamp functions remain operational. Removal of the headphone plug restores the main output signal.

**F TAPE/EPL (EXTERNAL PROCESSOR LOOP)-SOURCE BUTTON**

When this button is in the SOURCE position (button is not depressed) the signal is routed through the Selector Switch (A) to the Tape/EPL Output (R). Listening and taping is done in this mode. When the button is depressed, the source signal is taken from a tape or processor source through the Tape/EPL Inputs bypassing the selector switch.

**G INFRA RED RECEIVER**

The Infra Red signal from the Pre 2L's remote co is received here, to operate the Volume, Mute a SSP controls.

**H LED**

When the LED is lit the Pre 2L is "ON", receiving power. When the Power Button (K) is depresser LED will be dimly lit Green. After the power-up d has timed-out (approx. 40 seconds) the LED wil bright green. Upon activating the SSP button (D) LED will be lit orange. When in Mute mode the ir LED will flash ON-OFF at approximately 1 second in

**I MONO/STEREO BUTTON**

When in the ON position (button depressed), th Mono function is enabled. This function sums all selected input signals together, and directs them both channels. As long as the button is depress left or a right mono signal will be sent to both cf of the preamplifier. All other preamplifier functior operate normally.

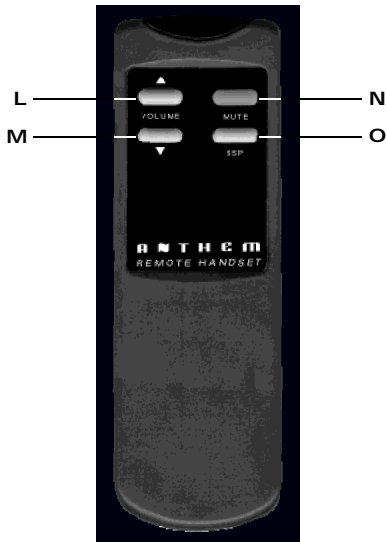
**J MUTE-OPERATE BUTTON**

When in the OPERATE state, this button will allo normal function. When in the MUTE state, the m signal is prevented from reaching the Outputs (C indicate a muted condition, the indicator LED (H flash OFF-ON at approximately 1 second interva **Please Note that Muting does not work w SSP Mode.**

**K ON-OFF BUTTON**

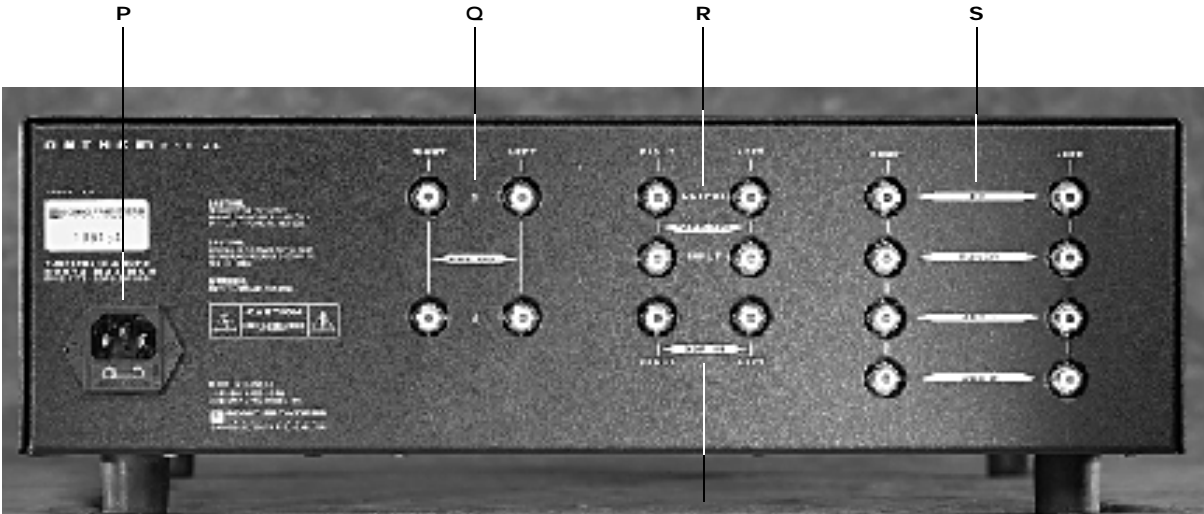
When in the ON position (button depressed), line is received by the Pre 2L circuitry from the AC s Due to the warm up characteristics of tubes, it v take 40 seconds for the tubes to pass signal. It suggested that the Volume be turned down for first minute. After the power-up time-out (appro: sec.) set the desired volume level. When in the i position (not depressed), the Pre 2L is not recei power and is not operational.

REMOTE CONTROL FUNCTIONS



- L VOLUME CONTROL UP**  
This button will increase the volume of the Pre 2L.
- M VOLUME CONTROL DOWN**  
This button will decrease the volume of the Pre 2L.
- N MUTE BUTTON**  
This button will Mute the outputs of the Pre 2L until the button is pressed again. This Muting is indicated by the flashing of the LED (H).
- O SSP BUTTON**  
This button will select an external Surround Sound Processor or Preamplifier as the input, and bypass all Pre 2L Preamp functions.

Figure 2 - Pre 2L Remote Handset



Muting the Pre 2L is achieved by placing the Mute/Operate button (J) in the MUTE position (button depressed); the output signal is then cut off. To resume listening, place the button in the OPERATE position (not depressed).

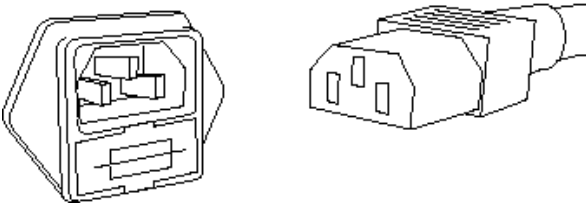


Figure 8  
Alignment of the AC power connector and detachable cord.

It is recommended that you shut OFF the main power via the Power Switch (K) when not listening.

TROUBLESHOOTING

If at any time the Pre 2L fails to work properly, consult this checklist:

1. Check that the AC Detachable Power Cord is plugged into the Pre 2L Detachable Power Cord Socket (P) and is connected to a live source of AC power. For instance, if using a power bar, check that the bar is turned on.
2. Ensure that all Input and Output connections are secure for a proper electrical contact.
3. DISCONNECT THE AC POWER CORD, wait 5 minutes, and check that:
  - A slo-blo fuse, with a rating of 0.8 Amp/250 V (0.4 Amp/250 V for European and Asian versions), is installed in the fuse holder directly under the removable IEC power cord socket.
  - The AC power fuse is intact and has not blown. If the fuse has blown, the thin metal conductor will have melted and the glass may appear “smoked”. If the fuse has blown, replace with a fuse of the same rating (0.8 Amp/250V slow-blo for 100 to 120 volt countries and 0.4 Amp/250V slow-blo for 200 to 240 volt countries). (See Figure 9)

NOTE: Under no circumstances should you replace the power fuse with one of a higher current rating! Doing so cause further damage to the Pre 2L and will also void 1 warranty. In addition, your continued protection from fire or shock would be seriously compromised.

- Ensure the tubes are plugged firmly into their sockets described in “INSERTION OF THE TUBES”.

5. Be sure the rest of the system is functioning properly (i.e. source unit, cables and connections, loudspeakers).

6. With tubes, fuses, covers and power cords in place, that the LED (H) is lit (glowing light green). If all of the : troubleshooting steps have been followed and the LED lit (remains dark green), contact your dealer or distribu assistance.

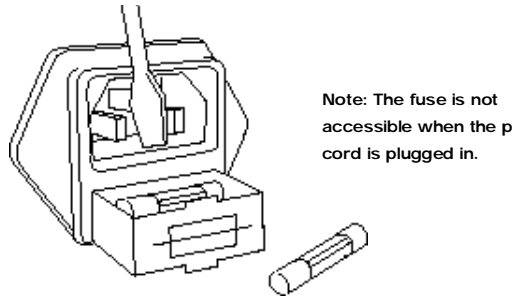


Figure 9  
Fuse location in the Pre 2L and removal.

**WARNING-DISCONNECT THE AC DETACHABLE POWER CORD FROM THE PRE 2L AND WAIT 5 MINUTES BEFORE REMOVING COVER, TUBES OR FUSE**

After insertion of the tubes, replace the cover and fasten the screws provided. The Pre 2L is now ready for operation. For further information on tube replacement, new Old Stock) tubes, contact your dealer, a Sonic's Customer Service Representative or The Parts Division, a division of Sonic Frontiers International.

CAUTION

When plugging in the Pre 2L, check to see that the unit is wired for the correct AC line voltage for country of operation. The operating AC line voltage is indicated on the side of the shipping box. If the Pre 2L is set incorrectly for the area in which it is to be operated, contact the dealer or distributor in your area. If the unit is configured properly, proceed with operation.

Insert the Detachable Power Cord to the Pre 2L chassis (see Figure 8). Plug your Pre 2L into the AC power outlet.

**Never unplug your Pre 2L during operation. Do not shut off your Power Amplifier, mute the Pre Amplifier, depress the Mute/Operate button (J), and do not turn off AC power by pressing and releasing the Power Switch (I).**

When making connections to external equipment are made using single-ended (unbalanced) type audio interconnect. Connect source units to the Inputs of the Pre 2L (S) or Outputs (R); left channel to left channel and right channel to right channel.

If a tape or other line level recording or processing device is being implemented, connect the left and right audio output of the unit to the corresponding left and right Tape/EPL Input of the Pre 2L. Also connect the left and right Tape/EPL Outputs on the Pre 2L to the corresponding left and right audio inputs of the external device.

Connect Set 1 of the Main Outputs (Q) on the Pre 2L to a stereo amplifier or two mono amplifiers; left channel to left channel and right channel to right channel. Set 2 of the Main Outputs may be used under different situations and in combination with Set 1. These situations include biamping, the use of active crossovers, powered subwoofers and other equipment; all situations being unique and system dependent. *Refer to the instruction manuals provided with the other equipment before using the second set of Outputs.*

The Pre 2L is now ready for operation. Power the Pre 2L by placing the On-Off button (K) in the ON position. The Power Indicator LED (H) will stay DIM for approximately 45 seconds. During this time, the Main Outputs are muted while the tubes are warming up and stabilizing. As soon as the Power Indicator LED is at steady, normal intensity, the Pre 2L is ready for operation.

Select a ready signal source with the Selector Switch (A).

Balance is adjusted through use of the Balance Control (B); turning it left and right will adjust the left and right levels respectively. The center detent is an indicator for equal, or balanced, left and right levels.

Volume is adjusted through use of the Volume Control (C). Turning this control clockwise increases the volume level of both channels. Be sure the level is sufficiently low when turning the unit ON or returning to the OPERATE mode after MUTING, to prevent damage to speakers, amplifiers or the Pre 2L itself.

To record from a source, place the Tape/EPL-Source button (F) in the SOURCE position, select the source material you wish to record via the Selector Switch (A), and commence recording. To play back a tape recording, place the Tape/EPL/ Source button in the TAPE position.

INPUT/OUTPUT INTERCONNECTIONS

**P DETACHABLE IEC AC POWER CORD SOCKET**  
Plug the Detachable Power Cord into this socket (see Figure 4). The Pre 2L is factory set for the correct operating voltage for the area in which it is sold (see shipping box for voltage setting). If a different operating voltage is required, please contact an authorized Sonic Frontiers or Anthem dealer, distributor or the factory directly.

**Q MAIN OUTPUTS ONE AND TWO**  
These outputs connect to the single-ended inputs of other units such as power amplifiers or a crossover unit; connect left channel to left channel and right channel to right channel. The set of two allows for easier biamping and greater flexibility when dealing with components such as electronic crossovers, a powered subwoofer, etc.

**R TAPE/EPL(EXTERNAL PROCESSOR LOOP) OUTPUT**  
This output connects to the single-ended inputs of a tape deck or external processor; connect left channel to left channel right channel to right channel. This output always follows the input selection of the Selector Switch (A).

**INPUT**  
This input accepts a single-ended RCA input connection from a tape deck or external processor;connect left channel to left channel right channel to right channel. These inputs are activated when the Tape/EPL-Source button (F) is depressed.

**S LINE LEVEL INPUTS FOR CD, TUNER AND AUXILIARY SOURCES**  
Line level single-ended source connection may be made to these 4 sets of RCA connectors; connect left channel to left channel right channel to right channel.

**T SSP INPUT**  
This input accepts a single-ended RCA input connection from an SSP Processor; connect left channel to left channel and right channel to right channel. The signal input at these connections will bypass all processing functions of the Pre 2L. To enable this input, depress the SSP button (D) on the front panel.

**WARNING- DISCONNECT THE AC DETACHABLE POWER CORD FROM THE PRE 2L AND WAIT 5 MINUTES BEFORE REMOVING COVER, TUBES OR FUSE.**

**ING UP**

PRE 2L comes with four tubes, as follows:

**LV1 & V1, LV2 & V2)**

PRE 2L tubes may be replaced with a matched set of 6DJ8s or E188CC/7308s with no circuit modification. These tubes were chosen for their reliability and extremely low noise. The amplifier topology used in the PRE 2L delivers exceptional performance using the 6922 tube. The tubes' low noise heightens dynamics and provides a natural tonal balance.

**REMOVAL OF THE TUBES**

Using the screwdriver supplied, remove the cover of PRE 2L. For your convenience, only four of the screws are pre-drilled at the factory.

When handling the tubes, it is recommended that the gloves provided be worn to prevent skin oils from getting on the glass surface.

Using the location of the tube sockets in the top view (Figure 5) or directly on the PC Board, inspect the tubes for corresponding labels and markings. Once locations are identified, take a tube and inspect the pins, noting the larger space between two of the pins (see Figure 4). This will match with the socket. Insert each tube into the appropriate tube socket, making sure all pins and pin are aligned. Do not force the tubes into the sockets. Push the tubes gently while pushing slowly until each is firmly seated.

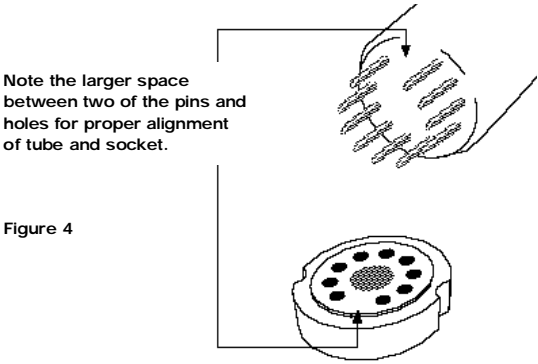


Figure 4

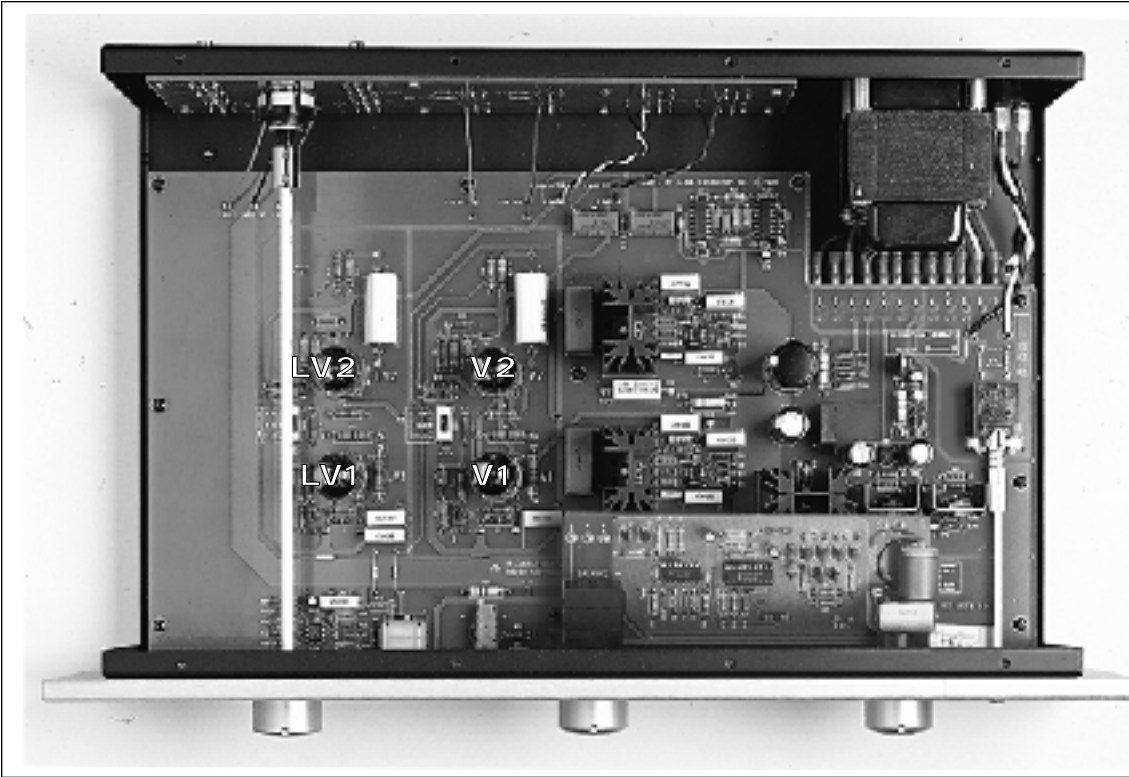


Figure 5 - Tube Location

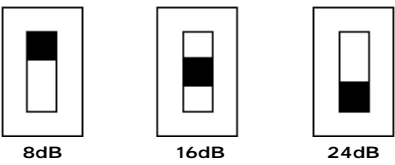


Figure 6 - Gain Switches (Top view, front panel facing)

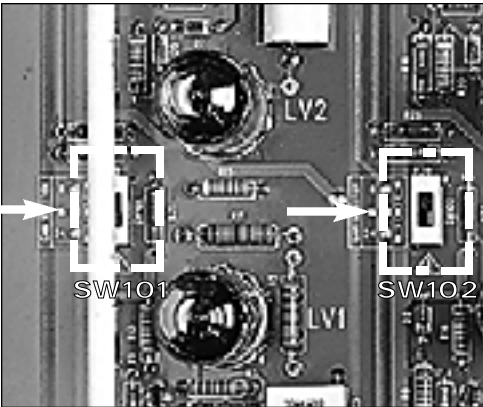


Figure 7 - Gain Switches shown in 8dB position.

**A N T H E M**

**ANTHEM PRE 2L OPERATING MANUAL**

0 BRIGHTON ROAD, OAKVILLE, ONTARIO, CANADA L6H 5T4 TEL: (905) 829-3838 FAX: (905) 829-3033  
Mr. President, please be advised that we are now offering the Anthem Pre 2L for sale at a special price of \$1,995.00.

